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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/549,771

09/19/2005

Osamu Funahashi

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EXAMINER

ELBIN, JESSE A

ART UNIT

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PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

<b>Office Action Summary</b>	<b>Application No.</b> 10/549,771	<b>Applicant(s)</b> FUNAHASHI, OSAMU	
	<b>Examiner</b> JESSE A. ELBIN	<b>Art Unit</b> 2614	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 19 September 2005.
- 2a) ☒ This action is **FINAL**.                      2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-7 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-7 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 19 September 2005 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All    b) ☐ Some \*    c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |  |   |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892)                       | 4) <input type="checkbox"/> Interview Summary (PTO-413)           |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)   | Paper No(s)/Mail Date. _____                                      |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date <u>06 May 2008</u> .   | 6) <input type="checkbox"/> Other: _____                          |

## **DETAILED ACTION**

### ***Response to Amendment***

1. The amendment of 31 July 2008 has been entered with the following effects:
  - a. Claims 1 and 6 are currently amended.
  - b. Claims 2-5 and 7 remain as originally presented.
  - c. Figure 5 is accepted as a replacement for originally filed Figure 5.
  - d. The terminal disclaimer relating to US Patents 7.324.659, 7.209,570, and 7,203,333 is accepted.

### ***Claim Rejections - 35 USC § 102***

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

3. Claims 1-7 are rejected under 35 U.S.C. 102(b) as being anticipated by Funahashi et al. (US PGPub 2003/0185415 A1) (already of record).

**Regarding claim 1**, Funahashi teaches a loudspeaker (abstract) comprising: a magnetic circuit (#9) having an annular magnetic gap (#14); a frame (#19) coupled to the magnetic circuit (#9 and Fig. 1); a voice coil (#16) movably fitted into the magnetic gap ([0040] lines 1-2); and a diaphragm (#17) coupled to the frame (#19 and Fig. 1) at its periphery via a first edge (#18), wherein a suspension holder (#20) extending

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downward from a middle portion between an inner periphery and an outer periphery on a rear surface of the diaphragm (Figs. 7-9) is coupled to the diaphragm using an adhesive (integrated with the diaphragm; Figs. 7 and [0053] lines 11-14) at a unitary point extending circumferentially about the diaphragm (Fig. 7 *illustrates an overlapping section between the diaphragm and suspension holder, this overlapping section is at a unitary point, as well as numerous other points*); and the periphery of the suspension holder (#20) is coupled to the frame (#19) via a second edge (#21) that is symmetric and similar to the first edge (#18 and [0045] lines 3-5).

**Regarding claim 2**, Funahashi remains as applied above.

Funahashi further teaches the diaphragm (#17) is formed of resin ([0043] lines 3-4).

**Regarding claim 3**, Funahashi remains as applied above.

Funahashi further teaches the first edge (Fig. 12 #29) and the second edge (Fig. 12 #30) are formed in a semicircular roll shape (Figs. 1, 4-17, and 20-21), respectively, and the first edge (Fig. 12 #29) is protruded toward a magnetic circuit (the roll of the first edge extends downward; Fig. 12 and [0060] line 7) and the second edge (Fig. 12 #30) is protruded toward the diaphragm (roll of the second edge extends upward; Fig. 12 and [0060] lines 7-9).

**Regarding claim 4**, Funahashi remains as applied above.

Funahashi further teaches the first edge (Fig. 11 #18) and the second edge (Fig. 11 #21) are formed in a semicircular roll shape (Figs. 1, 4-17, and 20-21), respectively, and the first edge (Fig. 11 #18) is protruded toward an opposite side of the magnetic circuit (the roll of the first edge extends upward; Fig. 11 and [0058] lines 7-8) and the second edge (Fig. 11 #21) is protruded toward the magnetic circuit (the roll of the second edge extends downward; Fig. 11 and [0058] lines 7-9).

#### ***Claim Rejections - 35 USC § 103***

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. Claims 5-7 are rejected under 35 U.S.C. 103(a) as being unpatentable over Funahashi et al. (US PGPub 2003/0185415 A1 ('415)) (already of record) as applied to claim 1 above, and further in view of Albinger (US Patent 4,029,911 ('911)) (already of record).

**Regarding claim 5**, Funahashi remains as applied above.

Funahashi does not teach an engaging portion for positioning a coupling portion in which the diaphragm and the suspension holder are integrated with each other.

In the same field of endeavor, Albinger teaches an engaging portion ('911 Fig. 2 at the area marked by #13), for positioning a coupling portion ('911 Fig. 2 at #47) in which the diaphragm ('911 #14) and the centering ring (suspension holder; '911 #15), are integrated with each other ('911 Fig. 2) for the benefit of ensuring a repeatable and secure fit between the diaphragm and centering ring.

It would have been obvious to one of ordinary skill in the art at the time of the invention to modify the connection between the diaphragm and suspension as taught by Funahashi with the engaging and coupling portions as taught by Albinger for the benefit of ensuring a repeatable and secure fit between the diaphragm and centering ring.

**Regarding claim 6**, Funahashi teaches a loudspeaker ('415 abstract) comprising: a magnetic circuit ('415 #9) having an annular magnetic gap ('415 #14); a frame ('415 #19) coupled to the magnetic circuit ('415 #9 and Fig. 1); a voice coil ('415 #16) movably fitted into the magnetic gap ('415 [0040] lines 1-2); and a diaphragm ('415 #17) coupled to the frame ('415 #19 and Fig. 1) at its periphery via a first edge ('415 #18), wherein a suspension holder ('415 #20) extending downward from a middle portion between an inner periphery and an outer periphery on a rear surface of the diaphragm ('415 Figs. 7-9) is coupled to the diaphragm using an adhesive (integrated with the diaphragm; Figs 7 and [0053] lines 11-14); and the periphery of the suspension holder ('415 #20) is coupled to the frame ('415 #19) via a second edge ('415 #21) that is symmetric and similar to the first edge ('415 #18 and [0045] lines 3-5)

Funahashi does not explicitly teach the method comprising the steps of: molding the diaphragm and the suspension holder, separately; and coupling the molded diaphragm and the molded suspension holder so as to be integrated with each other.

In the same field of endeavor, Albinger teaches the method comprising the steps of: molding the diaphragm ('911 #14) and the centering ring (suspension holder; '911 #15), separately ('911 Fig. 2 illustrates separate components); and connecting (coupling) the molded diaphragm ('911 #14) and the molded centering ring (suspension holder; '911 #15) so as to be integrated with each other ('911 col. 6 lines 45-49) at a unitary point extending circumferentially about the diaphragm (Fig. 1 *illustrates an overlapping section between the diaphragm and suspension holder, this overlapping section is at a unitary point, as well as numerous other points*); for the benefit of reducing cost and complexity of molding equipment.

It would have been obvious to one of ordinary skill in the art at the time of the invention to modify the steps of molding a diaphragm and suspension holder out of resin as taught by Funahashi by molding the parts separately and joining them at assembly as taught by Albinger for the benefit of reducing cost and complexity of molding equipment.

**Regarding claim 7**, Funahashi and Albinger remain as applied above.

Albinger further teaches using ultrasonic welding to join the diaphragm edge to a plastic part of the frame (the resin-molded diaphragm and the resin-molded suspension

holder are integrated with each other by welding; '911 col. 1 lines 42-45) for the benefit of producing a uniform, reliable, and rapid attachment ('911 col. 1 lines 45-46).

While Albinger does not explicitly teach connecting the centering ring with the diaphragm by welding, Albinger teaching use of ultrasonic welding to produce a uniform, reliable, and rapid attachment between plastic parts would have made it obvious to one of ordinary skill in the art at the time of the invention to use as the method of connecting the diaphragm and suspension holder as taught by the combination of Funahashi and Albinger.

### ***Double Patenting***

6. The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the "right to exclude" granted by a patent and to prevent possible harassment by multiple assignees. A nonstatutory obviousness-type double patenting rejection is appropriate where the conflicting claims are not identical, but at least one examined application claim is not patentably distinct from the reference claim(s) because the examined application claim is either anticipated by, or would have been obvious over, the reference claim(s). See, e.g., *In re Berg*, 140 F.3d 1428, 46 USPQ2d 1226 (Fed. Cir. 1998); *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422



F.2d 438, 164 USPQ 619 (CCPA 1970); and *In re Thorington*, 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) or 1.321(d) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent either is shown to be commonly owned with this application, or claims an invention made as a result of activities undertaken within the scope of a joint research agreement.

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

7. **Claims 1-7** are provisionally rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claim 91 of copending Application No. 11/418,143 (now US Patent 7,443,996) in view of Funahashi et al. (US PGPub 2003/0185415 A1) and Albinger (US Patent 4,029,911 ('911)).

Instant Application	Application 11/418143 (PGPub 2006/0215871)
<b>Claim 1</b> A loudspeaker comprising: a magnetic circuit having an annular magnetic gap; <b>a frame coupled to the magnetic circuit;</b> a voice coil movably fitted into the magnetic gap;	<b>Claim 114</b> A loudspeaker comprising: a magnetic circuit including a magnetic gap;  a voice coil member disposed in the magnetic gap of said magnetic

Instant Application	Application 11/418143 (PGPub 2006/0215871)
<p>and a diaphragm coupled to the frame at its periphery via a first edge,</p> <p>wherein a suspension holder extending downward from a middle portion between an inner periphery and an outer periphery on a rear surface of the diaphragm is integrated with the diaphragm <b>at a unitary point extending circumferentially about the diaphragm;</b></p> <p>and the periphery of the suspension holder is coupled to the frame via a second edge that is symmetric and similar to the first edge.</p>	<p>circuit and having a movable coil;</p> <p>a frame linked with an outer peripheral part of said diaphragm via a first edge;</p> <p>wherein an inner peripheral part of a suspension holder is linked with a middle section of said diaphragm;</p> <p>wherein an outer peripheral part of said suspension holder is linked with said frame via a second edge; and wherein the first edge and the second edge are substantially symmetrical with each other about a median of the first edge and the second edge.</p>
<p><b>Claim 3, dependent upon claim 1</b></p> <p>the <b>first edge and the second edge are formed in a semicircular roll shape, respectively</b>, and the roll of the first edge extends downward and the roll of the second edge</p>	<p><b>Claim 117, dependent upon claim 114</b></p> <p>the first edge is protruded toward said magnetic circuit, and the second edge is protruded toward said diaphragm.</p>

Instant Application	Application 11/418143 (PGPub 2006/0215871)
extends upward.	
<b>Claim 4, dependent upon claim 1</b>  the <b>first edge and the second edge are formed in a semicircular roll shape, respectively</b> , and the roll of the first edge extends upward and the roll of the second edge extends downward.	<b>Claim 116, dependent upon claim 114</b>  the first edge is protruded toward an opposite side of said magnetic circuit, and the second edge is protruded toward said magnetic circuit.

PGPub 2006/0215871 does not explicitly claim a magnetic circuit coupled to the frame, nor does it claim the second edge being symmetric and similar to the first edge.

{Funahashi teaches a magnetic circuit (Fig. 1 #9-13) coupled to the frame (Fig. 1 #19), further Fig. 7 illustrates an overlapping section between the diaphragm and suspension holder, this overlapping section is at a unitary point, as well as numerous other points, and the second edge being formed in a semicircular roll shape (Figs. 1, 4-17, and 20-21) and are symmetric and similar to the first edge ([0045] lines 1-5) for the benefit of providing a flexible connection for centering the voice coil.)

It would have been obvious to one of ordinary skill in the art at the time of the invention to modify the loudspeaker as claimed in the instant application with the magnetic circuit and roll shaped edges for the benefit of providing a flexible connection for centering the voice coil.

Regarding claims 2-7, Funahashi and Albinger teaches all the claimed limitations (see art rejections of claims 2-7 above).

8. **Claims 1-7** are provisionally rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claim 1 of copending Application No. 10/583044 in view of Funahashi et al. (US PGPub 2003/0185415 A1) and Albinger (US Patent 4,029,911 ('911)).

This is a provisional obviousness-type double patenting rejection.

Instant Application	Application 10/583,044 (PGPub 2007/0177757)
<b>Claim 1</b> A loudspeaker comprising: a magnetic circuit having an annular magnetic gap; a frame coupled to the magnetic circuit; a voice coil movably fitted into the magnetic gap;  and a diaphragm coupled to the frame at its periphery via a first edge,  <b>wherein a suspension holder extending downward from a middle portion between an inner periphery and an outer periphery on a rear surface of the diaphragm is integrated with the diaphragm at a unitary point extending circumferentially about</b>	<b>Claim 1</b> A loudspeaker comprising  a magnetic circuit held by the frame,  a voice coil body disposed so as it can move freely in a magnetic gap of the magnetic circuit, a diaphragm whose outer circumferential end is connected to the frame via a first edge,   a suspension holder whose outer

Instant Application	Application 10/583,044 (PGPub 2007/0177757)
<b>the diaphragm;</b> and the periphery of the suspension holder is coupled to the frame via a second edge <b>that is symmetric and similar to the first edge.</b>	circumferential end is connected to the frame via a second edge;

PGPub 2007/0177757 does not explicitly claim a suspension holder, extending downward from a middle portion between an inner periphery and an outer periphery on a rear surface of the diaphragm, is integrated with the diaphragm, nor does it claim the second edge being symmetric and similar to the first edge.

Funahashi teaches a suspension holder (Figs. 7-8 #25 and Fig. 9 #27), extending downward from a middle portion between an inner periphery and an outer periphery on a rear surface of the diaphragm, is integrated with the diaphragm (Figs. 7-9), further Fig. 7 illustrates an overlapping section between the diaphragm and suspension holder, this overlapping section is at a unitary point, as well as numerous other points, and the second edge being symmetric and similar to the first edge ([0045] lines 1-5) for the benefit of cancelling out their own asymmetry ([0048] lines 8-10).

It would have been obvious to one of ordinary skill in the art at the time of the invention to modify the loudspeaker as claimed in the instant application with the suspension and symmetric edges as taught by Funahashi for the benefit of cancelling out their own asymmetry.

Regarding claims 2-7, Funahashi and Albinger teaches all the claimed limitations (see art rejections of claims 2-7 above).

9. **Claims 1-7** are provisionally rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claims 1 and 9 of copending Application No. 10/585,942 in view of Funahashi et al. (US PGPub 2003/0185415 A1) and Albinger (US Patent 4,029,911 ('911)).

This is a provisional obviousness-type double patenting rejection.

Instant Application	Application 10/585,942 (PGPub 2007/0121995)
<p><b>Claim 1</b></p> <p>A loudspeaker comprising:</p> <p>a magnetic circuit having an annular magnetic gap;</p> <p>a frame coupled to the magnetic circuit;</p> <p>a voice coil movably fitted into the magnetic gap;</p> <p>and a diaphragm coupled to the frame at its periphery via a first edge,</p> <p>wherein a suspension holder <b>extending downward from a middle portion between an inner periphery and an outer periphery</b> on a rear surface of the diaphragm is integrated with the diaphragm <b>at a unitary point extending circumferentially about the diaphragm;</b></p>	<p><b>Claim 1</b></p> <p>A speaker, comprising:</p> <p>a magnetic circuit having a magnetic gap</p> <p>and disposed inside of the frame;</p> <p>a voice coil body disposed movably in the magnetic gap;</p> <p>and a diaphragm whose outer periphery edge is coupled to the frame,</p> <p><b>Claim 9, dependent upon claim 1</b></p> <p>a suspension-holder whose an end is coupled to the frame and other end is coupled to a back surface of the diaphragm.</p>

Instant Application	Application 10/585,942 (PGPub 2007/0121995)
and the periphery of the suspension holder is coupled to the frame <b>via a second edge that is symmetric and similar to the first edge.</b>	

PGPub 2007/0121995 does not explicitly claim the suspension holder, extending downward from a middle portion between an inner periphery and an outer periphery of the diaphragm, nor does it claim the periphery of the suspension holder is coupled via a second edge that is symmetric and similar to the first edge.

Funahashi teaches a suspension holder (Figs. 7-8 #25 and Fig. 9 #27), extending downward from a middle portion between an inner periphery and an outer periphery (Figs. 7-9), further Fig. 7 illustrates an overlapping section between the diaphragm and suspension holder, this overlapping section is at a unitary point, as well as numerous other points, and the periphery of the suspension holder is coupled via a second edge (Figs. 7-9 #21) that is symmetric and similar to the first edge ([0045] lines 1-5) for the benefit of cancelling out their own asymmetry ([0048] lines 8-10).

It would have been obvious to one of ordinary skill in the art at the time of the invention to modify the loudspeaker as claimed in the instant application with the suspension and symmetric edges as taught by Funahashi for the benefit of cancelling out their own asymmetry.

Regarding claims 2-7, Funahashi and Albinger teaches all the claimed limitations (see art rejections of claims 2 -7 above).

10. **Claims 1-7** are provisionally rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claims 1 and 2 of copending Application No. 10/568,278 in view of Funahashi et al. (US PGPub 2003/0185415 A1) and Albinger (US Patent 4,029,911 ('911)).

This is a provisional obviousness-type double patenting rejection.

Instant Application	Application 10/568,278 (PGPub 2006/0285718)
<p><b>Claim 1</b></p> <p>A loudspeaker comprising:</p> <p>a magnetic circuit having an annular magnetic gap;</p> <p>a voice coil movably fitted into the magnetic gap;</p> <p>a frame coupled to the magnetic circuit;</p> <p>and a diaphragm coupled to the frame at its periphery via a first edge,</p>	<p><b>Claim 1</b></p> <p>A speaker including:</p> <p>a magnetic circuit wherein at least a part of the voice coil is movably disposed in a magnetic gap of the magnetic circuit;</p> <p><b>Claim 2, dependent upon claim 1</b></p> <p>the magnetic circuit includes: a ring-shaped plate outer periphery thereof being laminated on the magnet and inner periphery thereof being pushed into the frame together with the columnar protrusion of the yoke.</p> <p><b>Claim 1</b></p> <p>a diaphragm with outer periphery of the diaphragm being fixed to an edge of the opening of the frame</p>



Instant Application	Application 10/568,278 (PGPub 2006/0285718)
<p><b>wherein a suspension holder extending downward from a middle portion between an inner periphery and an outer periphery on a rear surface of the diaphragm is integrated with the diaphragm at a unitary point extending circumferentially about the diaphragm;</b></p> <p>and the periphery of the suspension holder is coupled to the frame via a second edge that is symmetric and similar to the first edge.</p>	<p>through a first edge;</p> <p>and a suspension holder outer periphery thereof being fixed to the frame through a second edge on the bottom surface of the diaphragm inside the frame; wherein the first and the second edges are substantially symmetrical with respect to a space between the first and the second edges,</p>

PGPub 2006/0285718 does not claim wherein a suspension holder, extending downward from a middle portion between an inner periphery and an outer periphery on a rear surface of the diaphragm, is integrated with the diaphragm.

{Funahashi teaches a suspension holder (Figs. 7-8 #25 and Fig. 9 #27), extending downward from a middle portion between an inner periphery and an outer periphery on a rear surface of the diaphragm, is integrated with the diaphragm (Figs. 7-9), further Fig. 7 illustrates an overlapping section between the diaphragm and

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suspension holder, this overlapping section is at a unitary point, as well as numerous other points, for the benefit of making the suspension holder lighter so that sound conversion efficiency is improved ([0055] lines 12-14).

It would have been obvious to one of ordinary skill in the art at the time of the invention to modify the loudspeaker as claimed in the instant application with the suspension as taught by Funahashi for the benefit of making the suspension holder lighter so that sound conversion efficiency is improved.

Regarding claims 2-7, Funahashi and Albinger teaches all the claimed limitations (see art rejections of claims 2 -7 above).

11. **Claims 1-7** are provisionally rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claim 1 of copending Application No. 10/549,424 in view of Funahashi et al. (US PGPub 2003/0185415 A1) and Albinger (US Patent 4,029,911 ('911)).

This is a provisional obviousness-type double patenting rejection.

Instant Application	Application 10/549,424 (PGPub 2006/0245615)
<b>Claim 1</b> A loudspeaker comprising: a voice coil movably fitted into the magnetic gap; a magnetic circuit having an annular magnetic gap;  a frame coupled to the magnetic circuit;  and a diaphragm coupled to the frame at its periphery via a first edge,  wherein a suspension holder <b>extending downward from a middle portion</b> between an inner periphery and an outer periphery on a rear surface of the diaphragm is integrated with the diaphragm <b>at a unitary point extending circumferentially about the</b>	<b>Claim 1</b> A loudspeaker comprising: a voice coil unit disposed slidably with respect to a magnetic gap provided in the magnetic circuit;  a magnetic circuit disposed inside the frame;  a diaphragm coupled to the frame at its outer circumferential end part via a first edge; and a suspension holder coupled to a rear surface of the diaphragm and  coupled to the frame at its one end via a second edge;

Instant Application	Application 10/549,424 (PGPub 2006/0245615)
<b>diaphragm;</b> and the periphery of the suspension holder is coupled to the frame via a <b>second edge that is symmetric and similar to the first edge.</b>	
<b>Claim 3, dependent upon claim 1</b> the <b>first edge and the second edge are formed in a semicircular roll shape, respectively</b> , and the roll of the first edge extends downward and the roll of the second edge extends upward.	<b>Claim 2, dependent upon claim 1</b> the first edge is allowed to bend downward and the second edge is allowed to bend upward.
<b>Claim 4, dependent upon claim 1</b> the <b>first edge and the second edge are formed in a semicircular roll shape, respectively</b> , and the roll of the first edge extends upward and the roll of the second edge extends downward.	<b>Claim 3 dependent upon claim 1</b> the first edge is allowed to bend upward and the second edge is allowed to bend downward.

PGPub 2006/0245615 does not explicitly claim the suspension holder extending downward from a middle portion, the first and second edges being formed in a semicircular roll shape, nor does it claim the second edge being symmetric and similar to the first edge.

{Funahashi teaches the suspension holder extending downward from the diaphragm (Figs. 7-9), further Fig. 7 illustrates an overlapping section between the

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diaphragm and suspension holder, this overlapping section is at a unitary point, as well as numerous other points, and the second edge being formed in a semicircular roll shape (Figs. 1, 4-17, and 20-21) and are symmetric and similar to the first edge ([0045] lines 1-5) for the benefit of cancelling out their own asymmetry ([0048] lines 8-10).

It would have been obvious to one of ordinary skill in the art at the time of the invention to modify the loudspeaker as claimed in the instant application with the suspension and symmetric edges as taught by Funahashi for the benefit of cancelling out their own asymmetry.

Regarding claims 2-7, Funahashi and Albinger teaches all the claimed limitations (see art rejections of claims 2-7 above).

### ***Response to Arguments***

12. Applicant's arguments filed 31 July 2008 have been fully considered but they are not persuasive.

a. Applicant argues that the added limitation "at a unitary point extending circumferentially about the diaphragm" is not disclosed by the prior art of record.

Examiner respectfully disagrees that Funahashi ('415) and Albinger ('911) both teach the connection between "a suspension holder" and "the diaphragm" is "at a unitary point extending circumferentially about the diaphragm" as outlined in the above art rejections. The phrase "at a unitary point" when interpreted in view of the transitional word "comprising" used in both claims 1 and 6, merely states a minimum number of points, rather than a maximum number of points. Therefore,

for the purposes of the art rejections, "at a unitary point" is interpreted as "at least one point", rather than "at most one point".

b. Applicant acknowledges the provision obviousness-type double patenting rejections outlined in the office action of 01 May 2008.

Examiner notes that application 11/418,143 has been allowed, and has an issue date of 28 October 2008. Therefore, the obviousness-type double patenting rejection is no longer a provisional, as outlined in the above double patenting rejections.

### ***Conclusion***

13. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

14. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of

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the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to JESSE A. ELBIN whose telephone number is (571)270-3710. The examiner can normally be reached on Monday through Friday, 9:00am to 6:00pm EDT.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Curtis Kuntz can be reached on (571) 272-7499. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/J. A. E./

Examiner, Art Unit 2614

/CURTIS KUNTZ/

Supervisory Patent Examiner, Art Unit 2614